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USDA Soybean Germplasm Reports

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VI. USDA SOYBEAN GERMPLASM REPORT

Approximately 147 strains were grown in 1980 and added to the USDA Soybean Germplasm Collection in 1981 from the following countries:

	<u>North</u>	<u>South</u>	<u>Total</u>
East Germany	51	--	51
Poland	23	--	23
Romania	13	--	13
China	16	14	30
South Korea	13	6	19
Indonesia	--	11	11
Total	116	31	147

The strains from Europe include some older European varieties not previously in the Collection. We hope to continue to complete our collection of European varieties, many of which are based on germplasm independently obtained from Asia many years ago. We are continuing to get Chinese varieties a few at a time through visitors or directly from research institutions in China, but still the government of China persists in preventing major shipments of germplasm from leaving the country.

Since the above strains were received, we have received an additional 389 strains which are being grown and will soon become available for seed requests. There were 98 from China, 1 each from Japan, Burma, Thailand, and India, and 289 from South Korea, consistently our best supplier of native Asian germplasm. We also have received 25 strains of wild soybeans from China which we are growing in 1982 to add to the Collection.

We have revised and updated (1900 to 1980) the draft of our "Soybean Germplasm Register" (information on source, origin, variety name, etc., on all strains in the Variety, FC, and PI Collections) and are looking toward a publication date this summer. We hope that this will be useful to all users of the Germplasm Collection. Many PI strains are named varieties in their country of origin, and American researchers should be using these names, along with the PI number, especially when publishing in journals that are read internationally.

At Urbana, we have divided the US and Canadian Variety Collection into two natural divisions. The first one, called "Germplasm Varieties," consists of all introduced varieties, those derived from introductions through mixture and outcrossing, and other old varieties developed before 1945. This corresponds closely to the type of named varieties included with the FC and PI strains in the southern collection at Stoneville, Miss. The second division, called "Public Varieties, Groups 000 to IV, US and Canada," consists of all varieties developed domestically since 1945. These are almost entirely derived from hybrids and the ancestral parents are in the Germplasm Varieties, FC, or PI Collection. Such derived varieties as this are often not included in germplasm collections of other crop species. However, we believe that this is an important service that we can easily provide along with the basic germplasm collection, and this is confirmed by the large number of requests for seeds and information that we fill. In view of the present activity in private soybean breeding in the US, we would like to extend this

service to include a third division, called "Private Varieties, Groups 000 to IV, US and Canada," and have sent a questionnaire concerning procedures for this to the private breeders. Response has been favorable; we expect to get this collection underway this year and will have further information to present on it at next February's workshop.

In 1981, a general evaluation of nearly 2800 introductions was completed with the assistance of Dr. J. H. Orf and Dr. J. W. Lambert. This evaluation began with PI 273.483A and included all introductions in Maturity Group IV or earlier through PI 427.107C. We are anticipating that the results will be available before the end of the year.

This spring, again with the cooperation of Dr. Orf, we will begin a similar evaluation of over 1800 accessions added to the collection since 1980. Nearly 1700 of these strains are from the large and valuable soybean collection of the Vavilov Institute of Plant Industry in Leningrad, U.S.S.R. Almost 900 of these accessions originated in China and another 300 were from areas of the U.S.S.R. which border northeast China. This exchange of germ-plasm added to our collection more accessions from China than have been added from all other collection trips and exchanges combined! An additional 250 strains were collected in 18 different areas of the U.S.S.R. from a wide range of both latitude and longitude. The 1982-83 evaluation will also include strains from South Korea and Eastern Europe.

R. L. Bernard

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